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A Case of Undiagnosed Twins

SUMMARY

A pregnant patient may not be found to be 'high risk' until labor or delivery. There were no abnormalities found during a family physician's prenatal care of a P3 G4 29-year-old, apart from fluctuations of fundal height. Labor began spontaneously at 41-5/7 weeks. Brow presentation was diagnosed during the second stage, and after a healthy baby was delivered by cesarean section, an undiagnosed twin was discovered. The second twin had low Apgar scores, hypoxia associated with meconium aspiration and subsequent cerebral palsy. A lawsuit followed and it was alleged that the family physician's failure to diagnose twins constituted negligence. The prenatal record and care were scrutinized closely at trial. (Can Fam Physician 1984; 30: 2029-2032).

SOMMAIRE

Il est possible de ne pas identifier avant le travail ou l'accouchement une patiente enceinte comme étant à haut risque. Les soins prénataux d'un médecin de famille n'ont révélé aucune anomalie chez une patiente de 29 ans, G4, P3, à l'exception de fluctuations dans la hauteur utérine. Le travail a débuté spontanément à 41-5/7 semaines. Au cours du second stade de l'accouchement, on a diagnostiqué une présentation du front et on a procédé à une césarienne qui a accouché un nouveau-né en bonne santé. On a alors constaté la présence d'un jumeau non prévu. Le second jumeau a présenté un Apgar faible, de l'hypoxie, une aspiration méconiale et une paralysie cérébrale subséquente. Par la suite, une poursuite légale a présumé que l'inhabilité du médecin a diagnostiquer la grossesse gémellaire constituait une négligence. Au cours du procès on a fouillé en détail le contenu du dossier prénatal et les soins donnés.

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THE COST OF providing medical malpractice protection for Canadian physicians has escalated significantly. Several factors have contributed to the increase; not only has there been an increase in the number of lawsuits in which negligent medical care is alleged, but also there has been a significant rise in the size of court awards and settlements when disabilities, especially severe ones, are attributed to medical care.

Family physicians who provide obstetrical care frequently refer high risk patients to their obstetrician colleagues. Sometimes, however, risk factors do not become manifest until late in pregnancy or during labor. The following case is illustrative.

A 29-year-old patient came to see her family physician 12 weeks after her last menses. She had consulted him on a few occasions concerning minor medical problems during the previous 18 months.

The doctor obtained the patient's past obstetrical history and learned that she had had three pregnancies all of which ended in the birth of healthy babies, each weighing about 8.5 lb. The first two had been born at term and the third after 42 weeks gestation. There had been no complications of the pregnancies or the deliveries. There was no family history of twins.

He conducted a full examination which revealed no abnormalities apart from bilateral varicose veins. Pelvic examination was unremarkable and cervical cytology was negative. Abdominal examination revealed the uterine fundus to be above the symphysis pubis. A pregnancy test was positive. Hemoglobin was satisfactory and urinalysis was negative. The patient was normotensive. Her weight was 163 lb and her height was five feet eight and a half inches.

The doctor examined the patient at intervals throughout her pregnancy, and recorded his findings, including fundal height and location and rate of fetal heart sounds, on her antenatal record. She was weighed, and her blood pressure and urine were checked, at each visit. Her hemoglobin was assessed at appropriate intervals.

The doctor's prenatal record depicted the fundal height by means of diagrams. The fundus was below the umbilicus at 18 weeks and reached the umbilicus at 22 weeks; at 25 weeks it was approximately two fingers breadths above the umbilicus. There had been a rapid rise in the fundal height between the 18th and 22nd weeks.

The patient came to the doctor's office a couple of days before her 25 week visit because of herpes zoster. He wrote "B-scan" on the record on that day. This later become a pivotal issue.

The fundus was almost at the xiphisternum at 34 weeks. The doctor repeated the pelvic examination at that time and noted that the patient's pelvis was "adequate". This was the last occasion on which he performed a vaginal examination before the onset of labor.

The patient had expressed the desire to undergo surgical sterilization following the birth of her fourth baby. The family physician referred her to an obstetrician for possible postpartum sterilization.

The obstetrician examined the patient at 35 weeks. He noted that "she is a big woman". He found the fundus at the level of the "xiphisternum minus two fingers". The baby was presenting as a vertex in the left occiput transverse position. The cervix was effacing and open one centimeter. He agreed to perform postpartum sterilization and asked to be notified of the birth.

The family physician saw the patient in his office at 37.5 weeks. The fundus was significantly lower than it had been at the 34 week visit. He saw her again at 39.5 weeks and again at 40.5 weeks. When he last saw her in his office, three days after the expected date of confinement, her fundus had risen to a point just below the xiphisternum. He arranged no further appointments and told her that he would see her next in the hospital.

An ultrasound examination was not performed. The doctor did not order estriol studies.

The patient began to have regular contractions at 0700h 1.5 weeks later. She was admitted to hospital at 0850h. Her weight on admission was 187 lb, representing a 24 lb gain since her first prenatal visit at 12 weeks.

The family physician ruptured the membranes at 0922h. There was a moderate amount of clear liquor amnii. The cervix was fully dilated at 0925h.

Second stage did not progress satisfactorily, and the family physician asked an obstetrical resident to see the patient. The resident diagnosed a brow presentation. The obstetrician who was to perform the postpartum sterilization procedure was consulted and confirmed the brow presentation. He recommended cesarean section.

The obstetrician was assisted at surgery by the resident and the family physician. The patient was given general anesthesia. Just after making a transverse incision in the uterus, the surgeon impaled his hand on a scalpel and was forced to retire from the operation. The resident continued the procedure and had difficulty extracting the fetus because the brow was firmly wedged in the pelvis. The obstetrician, before leaving the room, applied pressure vaginally to disimpact the brow. A healthy female baby whose weight was 3520 g and whose Agpar score was good was born at 1121 h, five minutes after the start of general anesthesia. The resident obtained several tubes of cord blood for Rh antibody studies. Oxytocin was given to the mother intravenously. The baby was transferred to the pediatrician in attendance.

The resident proceeded to remove the placenta, discovered a second baby and ruptured the membranes. The twin, who presented as a breech, was in a "sea of meconium" and was delivered without difficulty at 1125 h. The baby was severely depressed and was intubated at about 30 seconds, suctioned, extubated and then reintubated at approximately 90 seconds. Positive pressure ventilation was given. Twin "B", a male weighing 2940 gm, could be extubated at approximately seven minutes of age. His Apgar scores were 1 at 1 minute, 1 at 2 minutes, 5 at 5 minutes and 7 at 10 minutes. Sodium bicarbonate was given into the umbilical vein. He was soon transferred to the intensive care nursery. X-ray examination of his chest showed extensive meconium aspiration and a small right pneumothorax.

Twin B was covered with meconium when he arrived in the nursery. His head circumference was below the 75th percentile and length was above the 75th percentile. His neurological status was abnormal. The pneumothorax disappeared spontaneously.

The baby's first few days of life were stormy. He developed bowel perforation due to necrotizing enterocolitis, Staphylococcus albus septicemia and hyperbilirubinemia, all of which responded to appropriate therapy. He was able to leave hospital when he was five weeks old.

The mother had an uncomplicated postpartum course.

Twin A developed normally, but twin B is severely handicapped. He has marked cerebral palsy of the mixed type. His inability to communicate verbally has made it difficult to estimate his mental status. He will likely never walk or talk and it is highly unlikely that he will ever be able to take care of himself in even the most rudimentary manner.

The parents brought a legal action on behalf of Twin B against the family physician, the obstetrician and the hospital. Other defendants were added as the litigation progressed.

Attention was focused on a number of aspects of the obstetrical care. For example, the conduct of the labor and the delivery was studied closely, as were the resuscitation of twin B and his early neonatal care. The experts acting for the plaintiffs and the defendants agreed that the management of the mother's labor and her surgical delivery, the resuscitation of twin B and the care he received during his first few days of life were appropriate. Attention also centred on the administration of oxytocin before delivery of twin B, but the ease with which he was delivered and the absence of tetanic uterine contractions discounted the likelihood that the oxytocin contributed to the fetal distress, which probably had been present for several hours, as indicated by the meconium staining of placenta and membranes found on pathological examination.

The legal action was tried in court. By the end of the trial, the only issues

which remained to be determined were whether the family physician's antenatal care had been appropriate and whether the obstetrician should have diagnosed twins on the one occasion he saw the patient prenatally.

The trial judge was satisfied that the plaintiffs had not established that the obstetrician was negligent and he dismissed the action against him.

Numerous experts, including three family physicians, testified at the trial.

The counsel for the plaintiffs submitted that there were a number of indications of multiple gestation which were not observed by the family physician. Seven aspects of the antenatal care were considered during the trial: evaluation of fundal height, the doctor's charting, the number of obstetrical visits, the frequency of pelvic examinations, the patient's weight gain in previous pregnancies, the use of estriol estimations, and B-scan tests.

The family physicians and one obstetrician who testified all agreed that the measurement of fundal height at each visit during the second and third trimesters is important and an unexpected rise or an unexpected drop in fundal height should activate an "index of suspicion" that there could be complications of the pregnancy. Testimony placed before the court revealed that the doctor made rough notes when he saw the patient on each visit, except the one at 25 weeks, and his nurse transferred the information to the antenatal record. The diagrams depicting fundal height were considered difficult to interpret and most of the experts indicated that they preferred to record the fundal height in centimeters. It was apparent that there had been a rapid rise of the fundus between 18 and 22 weeks and a drop between 34 and 37.5 weeks. The court found that the doctor's "practice of recording (the patient's) fundal height by means of a diagram, his failure to record the fundal height and other usual obstetrical information on the running chart for the (25 week) visit, and the practice of (the nurse) making the notations on the prenatal chart, all contributed in some degree to (the doctor's) failing to diagnose that (the patient) was carrying twins". It seems the judge concluded that had the charting of fundal height been done differently, the doctor may have been alerted that something unusual was going on and therefore he may have ordered some investigation which would have led him to the diagnosis of twins.

There was expert evidence that it would be normal practice to see a patient weekly from 38 weeks to 40 weeks and twice weekly from 40 weeks until confinement. The trial judge concluded that the family physician saw the patient less frequently than he should have.

One family physician expert, acting for the plaintiffs, testified that he would have performed a pelvic examination on each visit after the 36th week, but another expert, also a family physician, told the court that he probably would have conducted a further vaginal examination at or near term. The trial judge noted that the doctor had not done so.

Twin B's mother testified that she began to be concerned about her increasing weight and size during the fifth month of pregnancy and that she complained to the doctor about her weight problem. She pointed out to the court that she had actually lost weight during her three earlier pregnancies. The trial judge was satisfied that, although she may not have complained to the doctor about an excessive weight gain, the patient drew to the doctor's attention her concern that her weight and size were different from her previous pregnancies.

The use of estriol estimations for determining placental sufficiency in high risk and post-term pregnancies was considered by the court. It was pointed out that estriol is elevated in multiple pregnancy. Experts testified that they would have ordered estriol estimations beginning at 40 weeks or, at the latest, 41 weeks. The court found that it would have been appropriate for the doctor to have ordered estriol tests no later than the end of the 41st week and to have continued them thereafter. Had he done so, the court concluded that the existence of twins might have been discovered before delivery.

B-scan tests were readily available at the time the family physician was looking after the patient. One expert was not critical that the doctor had not ordered an ultrasound examination, but another was. The doctor had been questioned at the time of his examination for discovery, before trial, about the "B-scan" notation in his record; he said he had no record that the examination had ever been done and no explanation why it had not been performed. At trial, he stated that he had decided that it was unnecessary to have the examination performed. The trial judge concluded that the doctor's evidence on discovery was more accurate than his evidence at trial and found that the doctor had intended to order a B-scan but forgot to do so.

Evidence was presented to the court about the incidence of twins, and it was pointed out that failure to diagnose twin pregnancy before labor is not uncommon. All of the family physicians who testified agreed that the failure to diagnose twins does not necessarily import negligence. Whether or not a family physician is negligent in failing to diagnose twins would depend upon the circumstances of each case.

The trial judge found that "there were sufficient indicia of possible multiple gestation" to arouse the family physician's index of suspicion. The court pointed out that he should not have forgotten to order a B-scan. The trial judge found that the shortcomings in the doctor's charting, his limited number of examinations after the 38th week, his failure to perform a pelvic examination at or near term, his failure to respond to the patient's unusual increase in weight and size, his failure to order estriol estimations at the 40th or 41st week, all combined with the oversight of the B-scan, would have the effect that the doctor failed to diagnose that there was a twin pregnancy. The court was satisfied that the failure to diagnose twins was not in accord with a reasonable standard of care of the family physician in the community at that time. The judge found that the family physician was negligent and his failure to diagnose twins materially increased the risk of the injury ultimately suffered by twin B. Therefore, the trial judge concluded that causation had been established and awarded damages greater than $1 million. The judgment is under appeal. ◉